What is claimed is:

1. A sighting device for a radiometer for visibly marking a measuring surface, the temperature of which is measured by said radiometer, comprising:

a light source for emitting a visible light beam marking said measuring surface; and

an actuator, namely a piezoactuator for controlling a direction of said light beam.

2. The sighting device according to claim 1, wherein said piezoactuator is a piezo-bending actuator.

3. The sighting device according to claim 1, wherein the sighting device comprises a segmented mirror for dividing the light provided by said light source to different sighting beams according to the time-division multiplex method.

4. The sighting device according to claim 1, wherein said light source is a laser; a first mirror being attached on said actuator which can be moved by said actuator and deviates the laser beam to a segmented mirror, wherein each segment of said segmented mirror deflects said laser beam for marking of said measuring surface.

5. The sighting device according to claim 3, wherein central segments of said segmented mirror are larger than outer segments.

6. The sighting device according to claim 1, wherein the sighting device comprises an X-actuator and a Y-actuator for controlling said direction of said light beam in two dimensions on said measuring surface.

7. The sighting device according to claim 1, wherein the light source is attached to said actuator.

8. The sighting device according to claim 1, wherein said light source is rotatably suspended and comprises a guide mechanism into which one end of said actuator is rotatably attached such that said piezoactuator can rotate said light source.

9. The sighting device according to claim 1, wherein said light source is rotatably suspended and is connected, via wires, with one end of said actuator such that said actuator can rotate said light source.

10. The sighting device according to claim 1, wherein said piezoactuator is at least partially metallized; said light beam falling upon said metallized part of said actuator so that said piezoactuator changes said direction of said light beam in response to a voltage applied to same.

11. The sighting device according to claim 1, wherein the sighting device changes said direction of said light beam stepwise so that said light beam marks said measuring surface with points.

12. A sighting device for a radiometer for visibly marking a measuring surface, the temperature of which is measured by said radiometer, comprising:

a light source for emitting a visible light beam marking said measuring surface; and

an actuator for controlling a direction of said light beam; said actuator comprising a coil; a magnet being located in an interior of said coil so that, in response to a current flow through said coil, said coil presses said magnet out of said coil or pulls it into said coil.

13. The sighting device according to claim 12, wherein the sighting device comprises a segmented mirror for dividing the light provided by said light source to different sighting beams according to a time-division multiplex method.

14. The sighting device according to claim 12 , wherein said light source is a laser; a first mirror being attached on said actuator, which can be moved by said actuator and deviates said laser beam to a segmented mirror, wherein each segment of said segmented mirror deflects said laser beam for marking of said measuring surface.

15. The sighting device according to claim 13, wherein central segments of the segmented mirror are larger than outer segments.

16. The sighting device according to claim 12, wherein the sighting device comprises an X-actuator and a Y-actuator for controlling a position of said light beam in two dimensions on said measuring surface.

17. The sighting device according to claim 12, wherein said light source is attached to said actuator.

18. The sighting device according to claim 12 , wherein said light source is rotatably suspended and comprises a guide mechanism into which one end of said actuator is rotatably attached such that said piezoactuator can rotate said light source.

19. The sighting device according to claim 12, wherein the sighting device changes said direction of said light beam stepwise so that said light beam marks said measuring surface with points.

20. The sighting device according to claim 19, wherein said light beam is guided at a constant angular velocity and that the stepwise change of said direction of said light beam is accomplished by a sectorized mirror comprising three concave sectors.

21. A sighting device for a radiometer for visibly marking a measuring surface, a temperature of which is measured by said radiometer, comprising:

at least three light sources each of which emits a visible light beam; and said light sources being arranged such that said light beams generate bright points at an edge of said measuring surface; and

a control circuit for switching said light sources on and off; said control circuit being connected to each of said light sources and being constructed such that at most two light sources are switched on simultaneously.

22. The sighting device according to claim 21, wherein said points are illuminated in a predefined order at a frequency of up to 20 Hz so that a user has the visual impression a point would travel around said measuring surface; said frequency being in a monotonous relationship with the absolute value of the time derivative of said temperature measured by said radiometer.

23. The sighting device according to claim 21, wherein said points are illuminated by said light beam at a frequency of more than 25 Hz so that the human eye perceives the marking as a standing image.

24. The sighting device according to claim 21, wherein a subgroup of all points is illuminated, said subgroup being associated with a measured state, e.g. exceeding of a limit value or battery alarm.

25. The sighting device according to claim 21, wherein a first subgroup of all points is illuminated in a predefined order at a frequency of up to 20 Hz and that a second subgroup of all points is illuminated at a frequency of up to 25 Hz; said first and second subgroup displaying measured states.

26. The sighting device according to claim 21, wherein said control circuit comprises a switching circuit including a switching element for each light source; each light source being connected to a switching element and all switching elements being connected to a controller, wherein said controller controls the brightness of said light source connected therewith.

27. The sighting device according to claim 26, wherein said control circuit further comprises a digital/analog converter and a processor; said processor being connected to said switching circuit for controlling the same and for switching on a light source; said processor being connected to said digital/analog converter and supplying a digital target value to said digital/analog converter; said digital/analog converter converting said digital target value into an analog target value supplied by said digital/analog converter to said controller, wherein said controller is moreover supplied with an actual value from a photodiode; said photodiode measuring said brightness of said switched on light source; and said controller supplying its output signal to said switched on light source via said switching circuit.

28. A sighting device for a radiometer for visibly marking a measuring surface, the temperature of which is measured by said radiometer, comprising:

a light source for emitting a visible light beam marking said measuring surface;said light source guiding said light beam at a constant angular velocity and said sighting

device comprising a sectorized mirror upon which said light beam falls; said sectorized mirror causing a stepwise change of a direction of said light beam.

29. The sighting device according to claim 28, wherein said sectorized mirror comprises three concave sectors.

30. A sighting device for a radiometer for visibly marking a measuring surface, said temperature of which is measured by said radiometer, comprising:

a light source mounted in a housing;

an individual receptacle having a hollow space being larger than the outer dimensions of a housing of said light source and receiving said housing of said light source; and

a fixation fixing said housing of said light source in said hollow space; said fixation being formed such that an optical axis of said light source extends parallel to a mechanical axis of said individual receptacle.

31. The sighting device according to claim 30, wherein the outer shape of each individual receptacle is conical.

32. The sighting device according to claim 30, wherein moreover an overall receptacle is provided in the sighting device; said overall receptacle again having a hollow space for each individual receptacle, wherein an inner surface area of each hollow space of said overall receptacle has a positive fit with an outer shape of said individual receptacle pushed into said hollow space.

33. A sighting device for a radiometer for visibly marking a measuring surface, a temperature of which is measured by said radiometer, comprising:

a plurality of light sources; and

a plurality of individual receptacles; one individual receptacle being provided for each light source, wherein an optical axis of each light source is aligned parallel to a mechanical axis of said corresponding individual receptacle.

34. The sighting device according to claim 33, wherein an outer shape of each individual receptacle is conical.

35. The sighting device according to claim 33, wherein moreover an overall receptacle is provided in the sighting device; said overall receptacle again having a hollow space for each individual receptacle, wherein an inner surface area of each hollow space of said overall receptacle has a positive fit with an outer shape of said individual receptacle pushed into said hollow space.

36. A radiometer, comprising:

an IR detector;

a lens being arranged with respect to said IR detector such that it focuses IR radiation from a measuring surface to said detector;

a light source emitting visible light for marking said measuring surface; a beam path of said visible light extending through said lens.

37. The radiometer according to claim 36, wherein an optical axis is defined by said IR detector and said lens; said beam path of said visible light emitted by said light source extending towards said optical axis without necessarily intersecting same, and being deviated by a deviating means in the proximity of said optical axis so that said beam path of said visible light extends from there along said optical axis.

38. The radiometer according to claim 37, wherein said deviating means is formed such that said deviating means deflects light beams encountering said deviating means at different locations about different angles.

39. The radiometer according to claim 37, wherein said deviating means is formed by a prism.

40. The radiometer according to claim 37, wherein said deviating means is formed by a mirror.

41. The radiometer according to claim 37, wherein said deviating means comprises a hole about said optical axis through which said IR radiation can fall upon said detector.

42. The radiometer according to claim 37, wherein a second lens for visible light is arranged between said light source and said deviating means.

43. The radiometer according to claim 36, wherein said lens comprises a bore where said visible light passes said lens.

44. A radiometer, comprising:

an IR detector;

a light source emitting visible light for marking a measuring surface; and

a lens being arranged with respect to said IR detector such that it focuses IR radiation from a measuring surface to said detector; said lens being inclined versus said optical axis so that the reflected portion of said IR radiation encountering the outer side of said lens is smaller than a reflected portion of the light of said light source encountering said outer side of said lens.

45. A method for a radiometer of visibly marking a measuring surface, comprising:

emitting a visible light beam by a light source for marking said measuring surface; and

controlling a direction of said light beam by means of a piezoactuator.

46. A method for a radiometer of visibly marking a measuring surface, comprising:

emitting a visible light beam by a light source for marking said measuring surface; and

controlling said direction of said light beam by means of an actuator, wherein said actuator comprises a coil; a magnet being located in an interior of said coil so that, in response to a current flow through said coil, said coil presses said magnet out of said coil or pulls it into said coil.

47. A method for a radiometer of visibly marking a measuring surface, comprising:

emitting visible light beams by at least three light sources for marking said measuring surface; each light source emitting one light beam; and

switching said light sources on and off; at most two light sources being switched on simultaneously.

48. A method for a radiometer of visibly marking a measuring surface, comprising:

emitting a visible light beam by a light source for marking said measuring surface;

guiding said light beam at a constant angular velocity; and

changing a direction of said light beam stepwise by a sectorized mirror.

49. A method for a radiometer for adjusting a light source for visibly marking a measuring surface, comprising

introducing a housing of a light source into an individual receptacle;

aligning an optical axis of said light source parallel to a mechanical axis of said individual receptacle; and

fixing said housing of said light source within said individual receptacle.

50. A method for a radiometer for adjusting a light source for visibly marking a measuring surface, comprising:

introducing each light source of a plurality of light sources into an individual receptacle;

aligning an optical axis of each said light sources parallel to a mechanical axis of said corresponding individual receptacle

assembling said light sources together with said receptacles into a sighting device.

51. A method for a radiometer, comprising:

focusing IR radiation emitted by a measuring surface by means of a lens on an IR detector;

determining a temperature of said measuring surface on the basis of a signal supplied by said IR detector;

marking said measuring surface by visible light; and

guiding said visible light through said lens.

52. A method for a radiometer, comprising:

focusing IR radiation emitted by a measuring surface by means of a lens on an IR detector; said lens being inclined versus an optical axis;

determining a temperature of said measuring surface on the basis of a signal supplied by said IR detector;

emitting visible light onto an outer surface of said lens so that a reflected portion of said IR radiation encountering an outer side of said lens is smaller than said reflected portion of said visible light of said light source encountering said outer side of said lens; and

marking said measuring surface by said visible light reflected by said outer surface of said lens.